IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1. (Currently Amended) A ~~computer model of a device, said computer model comprising~~ simulator comprising:

a computer model of an integrated circuit device having at least one performance attribute, wherein said computer model comprises a target performance parameter for said performance attribute,

wherein said target performance parameter includes a first bounded range and a second bounded range,

wherein said first bounded range comprises performance parameter variations within a single manufacturing process based on a single design for said device, and

wherein said second bounded range comprises performance parameter variations ~~of different device~~ between multiple designs for said device.

2. (Currently Amended) The computer model in claim 1, wherein said ~~different device~~ multiple designs are directed to variations of [[a]] said single ~~device~~ design.

3. (Currently Amended) The computer model in claim 1, wherein said target performance parameter is the same for a target model of said device and a final hardware design of said device.

10/023,235   2

4. (Currently Amended) The computer model in claim 1, wherein said <u>target</u> performance parameter is constrained within at least one of said first bounded range and said second range.

5. (Currently Amended) The computer model in claim 4, wherein said <u>target perf...</u> parameter is bounded by both of said first bounded range and said second bounded ra...

6. (Currently Amended) The computer model in claim 4, wherein <u>said multiple d...</u> said devices are permitted to vary as long as said <u>target</u> performance parameter is m... within said at least one of said first bounded range and said second bounded range.

7. (Currently Amended) The computer model in claim 1, wherein said <u>target</u> performance parameter comprises a plurality of performance points.

8. (Currently Amended) The computer model in claim 1, wherein said <u>target</u> performance parameter comprises at least a two-dimensional range of a plurality of performance points.

9. (Currently Amended) A computer-implemented method for designing a devic... variance in a given <u>target</u> performance parameter <u>for a given performance attribute of said</u> <u>device,</u> said method comprising:

designing said device using a computer model [[of]] <u>created using</u> said <u>target</u> performance parameter <u>for said performance attribute,</u>

10/023,235

3 BEST AVAILABLE COPY

wherein said target performance parameter model includes a first bounded range and a second bounded range,

wherein said first bounded range comprises performance parameter variations within a single manufacturing process based on a single design for said device, and

wherein said second bounded range comprises performance parameter variations of different device between multiple designs for said device.

10.   (Currently Amended) The method of claim 9, wherein said different device multiple designs are directed to variations of [[a]] said single device design.

11.   (Currently Amended) The method of claim 9, wherein said target performance parameter is the same for a target model of said device and a final hardware design of said device.

12.   (Currently Amended) The method of claim 9, wherein said target performance parameter is constrained within at least one of said first bounded range and second bounded range.

13.   (Currently Amended) The computer model in claim 9, wherein said multiple designs of said devices are permitted to vary within said model as long as they said target performance parameter remains within said first bounded range and said second bounded range.

14.   (Currently Amended) A method of developing a product having a device with at least one performance attribute, said method comprising:

providing design goals for said device;

10/023,235   4

BEST AVAILABLE COPY

developing a target performance parameter for said performance attribute, wherein

target performance parameter includes a first bounded range and a second bounded range,

wherein said first bounded range comprises performance parameter variations within a

manufacturing process based on a single design for said device, and wherein said second

bounded range comprises performance parameter variations between multiple designs for

device;

producing a target model of said device based on said design goals, said target model

including a and said target performance parameter; and

designing said device and said product based on said target model performance

parameters,

wherein said target performance parameter comprises a plurality of performance points.

15.   (Currently Amended) The method of claim 14, wherein said target performance

parameter comprises a plurality of performance points is constrained to be within a first bounded

range and a second bounded range,

wherein said first bounded range comprises performance parameter variations within a

single manufacturing process, and

wherein said second bounded range comprises performance parameter variations of

different device designs.

16.   (Currently Amended) The method of claim 15, wherein said different device multiple

designs are directed to variations of [[a]] said single device design.

10/023,235   5

BEST AVAILABLE COPY

17.   (Currently Amended) The method of claim 14, wherein said target performance parameters are is the same for [[a]] said target model of said device and a final hardware design of said device.

18.   (Currently Amended) The computer model in claim [[15]] 14, wherein said multiple designs of said devices are permitted to vary as long as said target performance parameters are maintained remains within said first bounded range and said second bounded range.

19.   (Currently Amended) A method of designing a device with at least one performance attribute, said method comprising:

    providing a target model for said device;

        wherein said target model is created based on a target performance parameter for said performance attribute,

        wherein said target performance parameter includes a first bounded range and a second bounded range,

        wherein said first bounded range comprises performance parameter variations within a single manufacturing process based on a single design for said device, and

        wherein said second bounded range comprises performance parameter between multiple designs for said device;

    developing a design for said device based on said target model;

    proposing a modification of said design, wherein said modification comprises one of adding a particular feature into for said design and modifying said particular feature already in said design;

10/023,235   6

BEST AVAILABLE COPY

determining primary parameters for said particular feature;

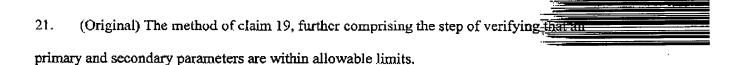determining secondary parameters from said primary parameters; and

balancing design choices related to said modification and, particularly, to said primary

parameters and said secondary parameters so that said target performance parameter will remain

within said first bounded range and said second bounded range

producing a target model of said particular feature bounded by allowable limits in said

primary parameters and said secondary parameters.

20. (Original) The method of claim 19, wherein said step of determining secondary

parameters further comprises the steps of:

determining at least one further secondary parameter from said secondary parameters;

and

correlating said secondary parameters to said at least one further secondary parameter

21. (Original) The method of claim 19, further comprising the step of verifying that all

primary and secondary parameters are within allowable limits.

22. (Original) The method of claim 19, wherein said primary parameters comprise first-order

primary parameters and second-order primary parameters.

23. (Original) A method of designing a device, comprising the steps of:

determining a set of design distributions that are within a given set of performance

for a plurality of parameters;

10/023,235   7

altering different features of said design; and

determining whether said altered design is within said set of design distributions.

24. (Currently Amended) A method of developing a product having a device with at least one performance attribute, said method comprising:

    providing design goals for said device;

    developing a target performance parameter for said performance attribute, wherein said target performance parameter includes a first bounded range and a second bounded range, wherein said first bounded range comprises performance parameter variations within a single manufacturing process based on a single design for said device, and wherein said second bounded range comprises performance parameter variations between multiple designs for said device;

    producing a target model of said device based on said design goals, said target model including a plurality of and said target performance parameter ranges; and

    simultaneously designing said device and said product based on said target model.

25. (Currently Amended) The method of claim 24, wherein said step of said device further comprises comprising:

    altering a device design to produce an altered device design; and

    accepting said altered device design only if said altered device design performs within said target performance parameters first bounded range and said second bounded range.

26. (Original) The method of claim 25, further comprising:

10/023,235   8

refining said target model based on said altered device design; and

designing at least said product based on said refined target model.

27. (Original) The method of claim 25, wherein said step of accepting said altered device design further comprises the steps of carrying out experiments on test chips.

28. (Original) The method of claim 24, wherein said step of designing said product further comprises:

providing design goals for said product; and

developing a product model from said target model and from said design goals for said product.

29. (Original) The method of claim 28, further comprising:

simulating said product model;

. determining whether said design goals for said product have been met; and

altering said design of said product if said product design goals have been met.

30. (Currently Amended) The method of claim 24, wherein said accepting process comprises:

calculating a primary parameter from a physical device feature;

correlating a secondary parameter ~~from~~ to said primary parameter;

calculating said secondary parameter based on said primary parameter; and

comparing said secondary parameter to said target performance parameter.

10/023,235 9

31. (Original) The method of claim 30, further comprising correlating other secondary parameters from correlations to said secondary parameters.

32. (Original) The method of claim 30, wherein said primary parameter is directly related to said physical device feature.

33. (Currently Amended) The method of claim 30, wherein said ~~correlating~~ calculating of said secondary parameter is performed using predetermined primary-to-secondary correlation calculations.

34. (Original) The method of claim 24, wherein said target performance parameters are the same for a target model of said device and a final hardware design of said device.

35. (Original) The method of claim 24, wherein device design is permitted to vary as long as said target performance parameters are maintained.

36. (Currently Amended) A computer medium storing a computer model of an integrated circuit device having at least one performance attribute, said model comprising:

a set of subroutines created using a target performance parameter for said performance attribute,

wherein said target performance parameter includes a first bounded range and a second bounded range,

10/023,235   10

wherein said first bounded range comprises performance parameter variations within a single manufacturing process based on a single design for said device, and

wherein said second bounded range comprises performance parameter variations ~~of different device~~ between multiple designs for said device.

37.   (Original) The computer medium in claim 36, wherein said performance parameter is constrained within at least one of said first bounded range and said second bounded range.

38.   (Original) The computer medium in claim 36, wherein said performance parameter comprises a plurality of performance points.

39.   (Original) The computer medium in claim 36, wherein said performance parameter comprises at least a two-dimensional range of a plurality of performance points.

40.   (Currently Amended) A computer medium storing [[a]] designs for an integrated circuit device having at least one performance attribute, wherein said designs are generated utilizing a computer model, said model comprising:

a set of subroutines created using a target performance parameter for said performance attribute,

wherein said target performance parameter includes a first bounded range and a second bounded range,

10/023,235   11

wherein said first bounded range comprises performance parameter variations within a

single manufacturing process based on a single design for said device, and

wherein said second bounded range comprises performance parameter variations ~~of~~

~~different device~~ between multiple designs for said device.

10/023,235   12